

VIA-021-PAP
Appln. No. 10/686,685

Submission Date: June 7, 2006
Response to Office Action of February 8, 2006

Amendments to the Drawings:

Please replace the sheet of drawings with Figures 3-5 with the attached Replacement Sheet 2.
Only Figure 5 has been modified as described in the Remarks section of this paper.

Attachments: Replacement Sheet 2 (Figures 3-5)

REMARKS

Claims 1-14 are pending. No amendments have been made with this paper. Thus, upon entry of this Response, claim 1-14 remain pending.

The Objection to the Drawings

The drawings were objected to under 37 C.F.R. §1.84(p)(4) because reference identifier “118” was used to designate both “OEN” and “QED” in Figure 5. Figure 5 has been amended to correct the designation of “QED” D-type register 222 (previously inadvertently identified by reference identifier “118”) such that it is labeled by the same reference identifier “222” as in the host interface device illustrated in Figure 2 and upon which Figure 5 is based. See, for example, Paragraphs 0015 and 0028-0029 of the originally filed application for support for this modification. It is respectfully submitted that this modification and resubmission of Figure 5 overcomes the objection. Withdrawal thereof is respectfully requested.

The 35 U.S.C. §102 Rejection

Claims 1-13 were rejected under 35 U.S.C. §102(e) as being anticipated by Tamagno *et al.* (U.S. Patent Publication No. 2004/0215471 A1). This rejection is respectfully traversed and withdrawal thereof is requested.

Claim 1 recites:

A method of effecting a substitute for a data communication target protocol in communications between a host interface device and a client interface device, the method comprising:

- a) selecting a first protocol that is supported by the client, such that a first predetermined data and control signal sequence conveyed to the client from the host predictably elicits a response from the client that accords with the supported protocol, wherein the predetermined data and control signal sequence is initiated by the host to invoke the supported protocol;
- b) selecting a different second protocol that is unsupported by the client in that the host does not have access to a unique data and control sequence that will predictably elicit a response, required by such unsupported protocol, when conveyed from the host to the client;
- c) determining a need for invocation of the second protocol to effect a particular function in the host that is not explicitly effected by the supported protocol;

- d) conveying the first predetermined data and control signal sequence from the host to the client;
- e) receiving a response to the host from the client that accords with the supported protocol; and
- f) interpreting the response, within the host, to approximately effect the particular function in the host.

Claims 2-7 depend, directly or indirectly, from claim 1.

Claim 8 recites:

A host interface device apparatus for controlling data transfers between the host interface device and a client interface device, comprising:

- a) host logic configured to cause transmission to the client of a control data sequence predetermined to invoke a first data communication protocol response from the client;
- b) a triggering host signal indicating a need for invocation of a different second data communication protocol from the client; and
- c) host logic configured to cause transmission to the client of the predetermined data sequence to invoke the first data communication protocol response from the client in response to both of
 - i) a host need to invoke the first protocol, and
 - ii) the triggering host signal for the second protocol in an absence of (c)(i).

Claims 9-13 ultimately depend from claim 8.

Tamagno *et al.* do not teach each and every element of these rejected claims. This is not surprising given the substantial differences between the limited focus of Tamagno *et al.* and the present invention.

Tamagno *et al.* describe a smart card device and a method for debug and software development related to the same. Tamagno *et al.* describe the benefits of their apparatus and methods with reference to the fact that they provide “a smart card device that can be debugged and software developed in a secure manner without requiring additional pins or contacts than are normally used.” (Para. 0017) This was deemed noteworthy as for “cost and security, smart cards typically only support a USB port without any ISO 7816 interface operating simultaneously . . . [resulting in] no means to debug and encode/decode software running in the smart card memory

using only one port.” (Para. 0016) In that regard, taking advantage of the multiple pipe capabilities of USB protocol, Tamagno *et al.* utilize an interface defined by a plurality of communication pipes and respective endpoints, including one interrupt endpoint that can be configured to function as a debug port for debugging and software development using a debug monitor program. (Paras. 0019-0020) A smart card operating in a USB mode is described throughout Tamagno *et al.* By making use of the multiple pipe capabilities of the USB protocol, a USB smart card is taught to have a single port that is capable for use in both communicating and operation as well as debugging. (Para. 0033)

In order to effectuate a debugger program on the smart card the “host communicates with the physical device using a desired communication that is designed to match any communication requirements of the physical device and transfer characteristics provided by a USB.” (Para. 0042) The debugging port configured by the personal computer is the same as the primary port used for communication and operation – it is a USB port that “makes use of the multiple pipe capabilities of the USB protocol.” (Para. 0033)

The Examiner makes repeated reference to Para. 0012 of Tamagno *et al.* Para. 0012 of Tamagno *et al.* states: “Two protocols are involved in supporting transactions between the smart card and host computer. The first protocol complies with the ISO-7816-3, which provides detailed requirements for the serial interface between smart card and smart card reader. The reader is connected to the computer via a serial port, a parallel port, or the Universal Serial Port (USB), using a second protocol.” When the “smart card is inserted into a smart card reader connected to a host computer[,] . . . communication between the smart card [and the smart card reader] using the first protocol and the host computer [and the smart card reader] using the second protocol” occurs.

Applicants respectfully submit that the description set forth in Para. 0012 of Tamagno *et al.* does not support the Examiner’s rejection of the pending claims. Rather, Para. 0012 of Tamagno *et al.* describes use of two protocols for communicating between three devices (*i.e.*, a smart card, a smart card reader, and a personal computer) – one protocol for communications between the smart card and smart card reader and the other protocol for communications between the smart card reader and the personal computer. In stark contrast, pending Claims 1-13 are directed toward a method (Claims 1-7) and an apparatus (Claims 8-13) that uses two different protocols to communicate

between two devices. Tamagno *et al.* do not teach or suggest presently claimed methods and apparatus that enable a host interface device to effectively implement a data communication protocol feature, such as, for example, flow control, with respect to data transfers from a client interface device that does not explicitly support such protocol feature.

For the sake of argument, and consistent with the Examiner's apparent interpretation of Tamagno *et al.*, assume that a smart card is synonymous with a "client" and a personal computer is synonymous with a "host" as recited in the presently rejected claims. Similarly assume that the "first protocol that is supported by the client" is that for communication between the smart card and the smart card reader and which "complies with the ISO-7816-3." (Page 4 of the Office Action and Para. 0012 of Tamagno *et al.*) Similarly assume that the "second protocol that is unsupported by the client" is the protocol for communication between the personal computer and the smart card reader, which is exemplified as being associated with a USB connection. (Page 4 of the Office Action and Para. 0012 of Tamagno *et al.*) Finally assume that "debugging" is the "particular function" referred to in Applicants' claims. (Page 5 of the Office Action) Based on these assumptions, reference is made to specific steps recited in claim 1.

With these assumptions, referring to Tamagno *et al.*, step (c) would read similar to the following: determining a need for invocation of the protocol for communication between the personal computer and the smart card reader to effect debugging in the personal computer that is not explicitly effected by the protocol for communication between the personal computer and the smart card reader. Similarly, step (f) would read: interpreting the response, within the personal computer, to approximately effect the debugging in the personal computer. Tamagno *et al.* do not teach or suggest these recited steps. It is particularly noteworthy that the debugging described throughout Tamagno *et al.* occurs in the smart card, not the personal computer. (See, for example, Para. 0016 of Tamagno *et al.*) In contrast, an exemplary application of the method and apparatus defined by Applicants claims is that where flow control is provided in the host.

Tamagno *et al.* do not teach or suggest the presently claimed methods and apparatus that enable a host interface device to effectively implement a data communication protocol feature, such as, for example, flow control, with respect to data transfers from a client interface device that does

not explicitly support such protocol feature. As noted in Paras. 008 and 009 of Applicants' specification, a different protocol feature that is supported by the client may be invoked in such a way as to cause an effect that is substantially the same as would be provided by invocation of the unsupported protocol. This effect can be obtained even though the data communication protocol feature is unsupported by the client. Tamagno *et al.* is completely silent in this regard.

Due to the substantial differences between Tamagno *et al.* and presently pending claim 1, some of which are described above, withdrawal of this rejection is respectfully requested with respect to claim 1 and claims 2-7 due to their direct or indirect dependency from claim 1.

Tamagno *et al.* similarly do not teach each and every step of rejected claims 8-13. Claim 8 recites an "apparatus for controlling data transfers between the host interface device and a client interface device." Recited therein are a "first data communication protocol" and a "different second data communication protocol" for communications between a host and client. Thus, claim 8 is directed toward communication between one pair of devices using two different protocols and host logic associated with the same. Tamagno *et al.* do not teach or suggest such apparatus. Rather, Tamagno *et al.* discuss use of two protocols for communicating between three devices (*i.e.*, a smart card, a smart card reader, and a personal computer) – one protocol for communications between the smart card and smart card reader and the other protocol for communications between the smart card reader and the personal computer.

Again, Tamagno *et al.* do not teach or suggest presently claimed methods and apparatus that enable a host interface device to effectively implement a data communication protocol feature, such as, for example, flow control, with respect to data transfers from a client interface device that does not explicitly support such protocol feature. As noted in Paras. 008 and 009 of the present specification, a different protocol feature that is supported by the client may be invoked in such a way as to cause an effect that is substantially the same as would be provided by invocation of the unsupported protocol. This effect can be obtained even though the data communication protocol feature is unsupported by the client. Tamagno *et al.* is silent in this regard.

Due to the substantial differences between Tamagno *et al.* and the apparatus defined by

Claim 8, some of which are described above, withdrawal of this rejection is respectfully requested with respect to claim 8 and claims 9-13 due to their direct or indirect dependency from claim 8.

The 35 U.S.C. §103 Rejection

Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Tamagno *et al.* (U.S. Patent Publication No. 2004/0215471 A1) in view of Ip (U.S. Patent No. 6,018,787). This rejection is respectfully traversed and withdrawal thereof is requested.

Claim 8 recites:

A host interface device apparatus for controlling data transfers between the host interface device and a client interface device, comprising:

- a) host logic configured to cause transmission to the client of a control data sequence predetermined to invoke a first data communication protocol response from the client;
- b) a triggering host signal indicating a need for invocation of a different second data communication protocol from the client; and
- c) host logic configured to cause transmission to the client of the predetermined data sequence to invoke the first data communication protocol response from the client in response to both of
 - i) a host need to invoke the first protocol, and
 - ii) the triggering host signal for the second protocol in an absence of (c)(i).

Claim 14 indirectly depends from claim 8.

As described above, Tamagno *et al.* do not teach each and every step of rejected claim 8. The same applies to claim 14 due to its indirect dependency from claim 8. The Examiner's combination of Ip with Tamagno *et al.* does not overcome the substantial deficiencies of Tamagno *et al.* in that regard. Claim 14 recites a "first data communication protocol" and a "different second data communication protocol" for communications between a host and client. It is directed toward communication between a single pair of devices using two different protocols and host logic associated with the same. In contrast, Tamagno *et al.* do not teach or suggest such an apparatus. Rather, Tamagno *et al.* describe use of two protocols for communicating between three devices (*i.e.*, a smart card, a smart card reader, and a personal computer) – one protocol for communications between the smart card and smart card reader and the other protocol for communications between the

smart card reader and the personal computer. Similarly, Ip does not teach or suggest such apparatus.

Thus, withdrawal of this rejection is respectfully requested.

Prior Art Not Relied Upon But Made of Record

It is believed that the document, U.S. Patent No. 6,023,684 (Pearson), is no more relevant to patentability of the presently claimed invention than those documents discussed elsewhere herein. The differences between Pearson and the present claims are not discussed in this paper based on their significance and due to the fact that Pearson has not been relied upon in rejecting any of the pending claims as being unpatentable. Applicants reserve the right, however, to provide detailed arguments in that regard should Pearson be relied upon as supporting a position that the claims are unpatentable in the future.

Conclusion

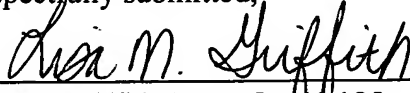
It is respectfully submitted that the amendment and remarks set forth above overcome each objection and each grounds of rejection set forth by the Examiner. As such, the Examiner is respectfully requested to reconsider the application, to withdraw all previous rejections, and, barring the discovery of new grounds for rejection, to promptly issue a Notice of Allowance of all pending claims.

The Commissioner is authorized to construe this paper as including a petition to extend the period for response by the number of months necessary to make this paper timely filed. Fees or deficiencies required to cause the response to be complete and timely filed may be charged, and any overpayments should be credited, to our Deposit Account No. 50-0490.

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Date: June 7, 2006
JAQUEZ & ASSOCIATES
6265 Greenwich Drive, Suite 100D
San Diego, California 92122-5916
(858) 453-2004 (TEL)
(858) 453-1280 (FAX)
E-mail: barbara@jaquez-associates.com

Respectfully submitted,



Lisa M. Griffith, Reg. No. 41,185